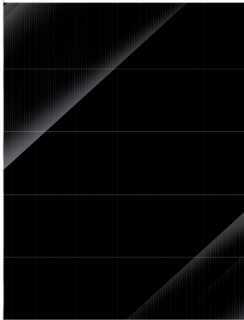




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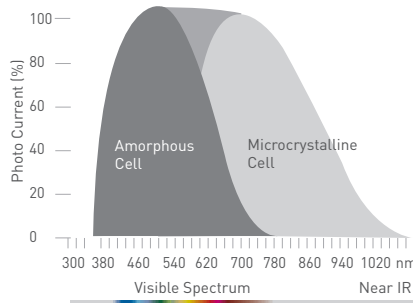
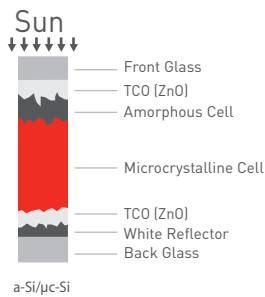


THE PRAMAC LUCE MICROMORPH® MCPH P7 MODULES ARE MANUFACTURED USING SILICON THIN FILM DOUBLE JUNCTION TECHNOLOGY. THIS PROCESS COMBINES AN AMORPHOUS SILICON TOP LAYER OVER A MICROCRYSTALLINE SILICON LAYER. THE TOP CELL ABSORBS AND CONVERTS THE VISIBLE SOLAR SPECTRUM, WHILE THE BOTTOM ONE IS SENSITIVE TO NEAR IR WAVELENGTHS. THIS IS THE REASON WHY MICROMORPH® PANELS ARE EVEN MORE EFFICIENT. MOREOVER, THANKS TO THE FRAMELESS DESIGN, THEY ARE PERFECTLY SUITABLE FOR ARCHITECTURAL INTEGRATIONS.

THE MICROMORPH® TECHNOLOGY PROVIDES GREATER EFFICIENCY AND FASTER RETURN ON INVESTMENT: DOUBLE JUNCTION MODULES CONVERT A WIDER SPECTRUM OF SOLAR RADIATION.

MICROMORPH® PHOTOVOLTAIC MODULE

PRAMAC LUCE MCPH P7



LONG LIFETIME: OVER 25 YEARS

HIGH EFFICIENCY MICROMORPH® THIN FILM TECHNOLOGY

CERTIFICATES CE, IEC 61646 ED.2, 61730, 61701, MCS, HAIL TEST 35 mm, FIRE CLASS C

HIGH TRANSMITTANCE FRONT GLASS HEAT STRENGTHENED BACK GLASS

Ø 4mm, IP67 MULTICONTACT® CONNECTIONS MC4

TÜV-CERTIFIED MULTICONTACT® PV-JB-LC, IP65 JUNCTION BOX WITH BY-PASS DIODE



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PRAMAC SWISS SA
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SOLAR.PRAMAC.COM - SOLAR@PRAMAC.COM
RELEASE 4.1 - 07.04.2011

PRAMAC LUCE MCPH P7

GENERAL FEATURES AND ELECTRICAL PARAMETERS

Cell/Module Type Tandem-J Amorphous and Microcrystalline Silicon [a-Si/uc-Si]

Power classes		115W	125W
Power range	-- (W)	±5	±5
STC specifications*		x	•
Maximum power	P_m (W)	115,0	127,8
Maximum power voltage	V_{mpp} (V)	94,0	98,1
Maximum power current	I_{mpp} (A)	1,22	1,30
Open circuit voltage	V_{oc} (V)	129,0	129,7
Short circuit current	I_{sc} (A)	1,47	1,48
Fill factor	FF (%)	60,5	66,4
Maximum module efficiency	η (%)	8,4	9,1
Specific power	-- (W/m ²)	80,4	87,4

x stabilised value • initial value *STC: 1000 W/m², cell temperature 25°C, AM 1.5 - All electrical parameters with ±3% uncertainty

TEMPERATURE COEFFICIENTS

P_{mpp} temperature coefficient	αP_{mpp} (% / °C)	-0,29
V_{oc} temperature coefficient	αV_{oc} (% / °C)	-0,39
I_{sc} temperature coefficient	αI_{sc} (% / °C)	+0,06
I_{mpp} temperature coefficient	αI_{mpp} (% / °C)	+0,06
V_{mpp} temperature coefficient	αV_{mpp} (% / °C)	-0,41
NOCT	(°C)	47

MECHANICAL FEATURES*

Height	(mm)	1300
Width	(mm)	1100
Glass thickness	(mm)	6,7±0,3
Active layer height	(mm)	1274
Active layer width	(mm)	1074
Depth	(mm)	26
Weight	(kg)	24
Area	(m ²)	1,43
Encapsulant	[Type/material]	polyvinyl butyral
Front glass thickness	(mm)	3,2
Back glass (HSG) thickness	(mm)	3,2
IP65 J-box with by-pass diode and MultiContact® MC4 connectors		TÜV-certified
Connections		flex-sol 2,5 mm ² x 80 cm

MAXIMUM VALUES

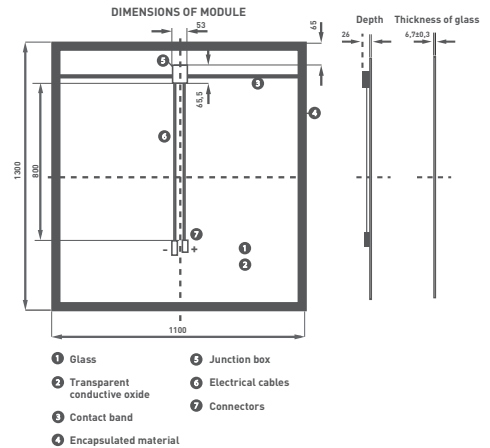
Maximum system voltage	V_{sys} (V _{DC})	1000
Operational temperature range	T (°C)	-40°/+85°
Wind loading or surface pressure	P (kPa)	2,4
Hailstone impact resistance		up to 35 mm at 155 km/h

WARRANTY

Guaranteed energy capability 25 years (P_{mpp})	(%)	85
Guaranteed energy capability 15 years (P_{mpp})	(%)	87,5
Guaranteed energy capability 10 years (P_{mpp})	(%)	90
Guaranteed energy capability 5 years (P_{mpp})	(%)	92,5
Warranty against manufacturing defects		5 years
Optional Extended Warranty against manufacturing defects:		10 years

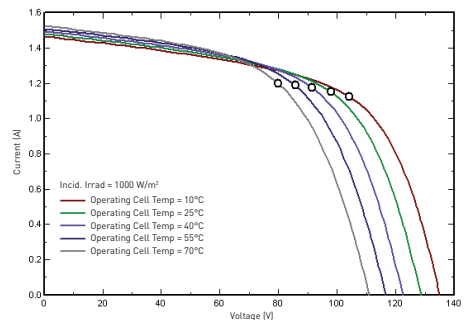
PERFORMANCE AT LOW IRRADIANCE

Irradiance (W/m ²)	P(W)	P(W)
1000	115	125
800	92,7	100,8
600	69,4	75,5
400	45,2	49,1
200	21,1	23,0



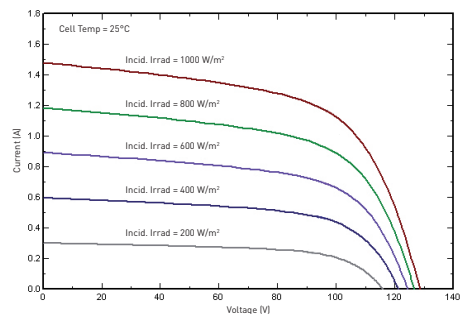
I-V CURVE AT DIFFERENT TEMPERATURE

PV module: Pramac Swiss, Pramac Luce MCPH P7 125W



I-V CURVE AT DIFFERENT IRRADIANCE

PV module: Pramac Swiss, Pramac Luce MCPH P7 125W



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*Vertical Mounting (Module Short Side Down)
Minimum Inclination 10°



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PRAMAC reserves the right to change specifications without notice. Electrical Data are typical values coming from production lots: PRAMAC shall not be responsible or liable for the accuracy of these values for Future Lots